REMARKS

The Examiner maintained the rejection of claims 1-30 under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 5,796,951 to Hamner *et al.* ("Hamner") in view of U.S. Patent No. 6,192,365 to Draper *et al.* ("Draper"). At paragraph 11, the examiner stated, "However, wireless networks were well known in the art as evidenced by Draper." Draper provides no evidence whatsoever of managing a wireless communication network using a database containing a collection of managed objects. Draper, like Hamner, discloses a database managing a computer network.

In particular, Draper discloses a method of managing a transaction log wherein updates to the log represent operations performed on a database replica in a network of disconnectable computers. Abstract, lines 1-4. Draper's disconnectable computers are computers that are only sporadically connected to the network, and on which data may change when the computer is disconnected from the network, thus requiring synchronization whenever a computer is a re-connected. Draper maintains a transaction log of operations, compresses the transaction log based on update semantics to remove redundant/inconsistent updates, and uses the compressed transaction log for transaction synchronization. col. 2, lines 23-63.

At col. 1, lines 19-23, Draper describes a disconnectable computer network, "Familiar examples include "mobile-link" portable computers which are connectable to a computer network by a wireless links and separate server computers in a wide-area network (WAN) or other network." Draper thus explicitly and unambiguously defines the managed network as a computer network. Those of skill in the art understand a wireless communication network to be distinct from a computer network. In particular, Fig. 1 and page 4, lines 7-21 describe a wireless communication network as understood by those of skill in the art.

Accordingly, the examiner's assertion in paragraph 11, "It would have been obvious . . . to modify the system of Hamner by adding the ability to have the stored configuration data be from a wireless communication network as provided by Draper" has no support in the art of record. For at least the reason that the proposed combination of prior art references fails to teach or suggest every claimed limitation – to wit, storing current/historical configuration data representing current/past configurations of a <u>wireless communication network</u> in a database as a collection of managed/changed objects, the § 103 rejections are improper and must be withdrawn.

At paragraph 10, the examiner asserted, "It would have been obvious . . . to modify the system of Hamner by adding the ability to store historical configuration data as a collection of changed objects, wherein each changed object represents a past configuration of one of said managed objects that has been changed as provided by Draper." Draper does not provide this teaching. Draper teaches, at most, the ability to <u>construct</u> a changed object (representing a past configuration of a managed object that has been changed), based on a transaction log storing operations performed on managed objects. "The invention also provides for <u>restoration</u> of prior versions of database objects using the log." Abstract, last sentence. "In addition, one can locate a desired transaction checkpoint, access the <u>update history structure in the log database,</u> and <u>then **construct** a prior version of a target database object</u> as it existed at the time represented by that checkpoint." col. 3, lines 21-25. Note that it is the transaction log of Draper on which the examiner's rejections rely, not the distributed target database in which the computer network simulations are run.

Draper does not teach or suggest the limitation of claim 1, "storing historical configuration data . . . <u>as a collection of changed objects</u>, wherein each changed object represents a past configuration of one of said managed objects that has been changed."

Claim 1 recites storing both "current configuration data . . . as a collection of managed objects" and storing "historical configuration data . . . as a collection of changed objects." Hamner teaches the first limitation. Neither Hamner nor Draper teach or suggest the second. At most, Draper teaches the ability to selectively, dynamically generate changed objects in a network management database by accessing update history from a compressed transaction log.

For even a large disconnectable computer network, dynamically generating a past configuration of one or more computers is a tractable task, and storing change information in a transaction log (particularly a compressed transaction log, as Draper discloses) is likely a more efficient use of database resources. However, a wireless communication network is a vastly more complex and dynamic entity than a computer network. In addition to configurable computational and switching hardware, a wireless communication network state is also defined by dynamic configuration parameters such as frequency reuse plans, timeslot allocations, control channel assignments, cell sectorization, transmission power levels, and the like. Furthermore, "tuning" or troubleshooting a wireless communication network requires traversing a vastly greater permutation of changed parameters than does synchronizing a plurality of computers upon their re-connection to a computer network.

Applicant's inventive network management database – storing both current configuration data as a collection of managed objects and stored configuration data as a collection of changed objects – provides administrators an innovative tool with which to assess the efficacy of changes introduced into the network. After the many network changes that are regularly performed, they can easily model configurations of the network in which some changes are maintained (by using the current managed objects in the network management database), and other changes are "undone" (by using

changed objects in the database that represent past configurations), <u>without</u> the need to dynamically generate each changed object by extracting change information from a transaction log and applying it to the managed objects. Due to both the number of changes occurring throughout the network, and the sheer size and complexity of the network (i.e., the number of entities on which changes must be implemented), dynamically generating database objects representing past configurations is computationally prohibitive; the network simulation would grind to a halt.

For at least the reason that Hamner and Draper, alone or in combination, fail to teach or suggest storing historical configuration data comprising one or more changed objects, the § 103 rejections are improper and must be withdrawn.

Fig. 3 depicts, and claims 15-18 and 27-30 recite, the ability to introduce <u>prospective</u> network configuration changes into managed database objects – that is, the ability to perform "what if" simulations to assess the wisdom of proposed configuration changes. Any suggestion of such capability is completely lacking in Draper, which stores only actual changes in a transaction log, and allows only for actual past configurations to be dynamically created. Nothing in Draper remotely hints at the ability to create managed database objects representing prospective changes in configuration data. Nor does Hamner teach this feature. For at least this reason, the § 103 rejections of claims 15-18 and 27-30 are improper and must be withdrawn.

For at least the reasons that the proposed combination of prior art references fails to teach managing a wireless communication network using a database of managed objects, and also fails to teach that the database includes both managed object representing current configurations and changed object representing past configurations, the § 103 rejections of claims 1-30 are improper and must be withdrawn. For at least the additional reason that the prior art fails to teach or suggest introducing perspective

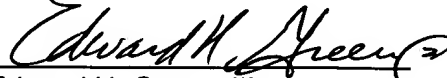configuration changes into managed database objects, the § 103 rejections of claims 15-

18 and 27-30 are improper and must be withdrawn. As all pending claims define

patentably over the art of record, prompt allowance of claims 1-30 is requested.

Respectfully submitted,

COATS & BENNETT, P.L.L.C.

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Edward H. Green, III
Registration No.: 42,604

P.O. Box 5
Raleigh, NC 27602
Telephone: (919) 854-1844
Facsimile: (919) 854-2084